Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic..  
Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages.  
There are many approaches to the Software development process.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software.  
Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit.  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.  
Normally the first step in debugging is to attempt to reproduce the problem.  
 It is very difficult to determine what are the most popular modern programming languages.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
Techniques like Code refactoring can enhance readability.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute.  
The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference.